

WHAT IS CLAIMED IS:

1. A side-blown fan comprising:

a case having a side-outlet, a first axial inlet, and a first protrusion extending from an edge of the first axial inlet toward the center of the first axial inlet; and

5 a blade member embedded inside the case, wherein a high air pressure region exists between the blade member and the case in a radial direction, and the first protrusion covers the high air pressure region and a part of the blade member.

2. The side-blown fan according to claim 1, further comprising a flow field region between the case and the blade member.

10 3. The side-blown fan according to claim 2, wherein the high air pressure region is a region extending from the narrowest section of the flow field region to a section at a prescribed distance along the direction of the operational air stream inside the case.

4. The side-blown fan according to claim 1, wherein the high air pressure region means a narrow region existing between the blade member and the case in the radial direction.

15 5. The side-blown fan according to claim 1, wherein the case is constituted of a plurality of case elements.

6. The side-blown fan according to claim 5, wherein the plurality of case elements are jointed by a method selected from the group consisting of fixing, riveting, fastening and adhering.

20 7. The side-blown fan according to claim 5, wherein

the plurality of case elements are jointed by engaging hooking structures and

corresponding eye structures formed on the case elements, respectively; or

the plurality of case elements are jointed by engaging U-shaped structures and corresponding bump structures formed on the case elements, respectively.

8. The side-blown fan according to claim 1, wherein the first protrusion is a chord edge or
5 a bump of the first axial inlet.

9. The side-blown fan according to claim 1, wherein the case further comprises a second axial inlet, and a second protrusion extending from an edge of the second axial inlet toward the center of the second axial inlet.

10. The side-blown fan according to claim 9, wherein the second axial inlet corresponds
10 to the first axial inlet, and the second protrusion corresponds to the first protrusion.

11. The side-blown fan according to claim 9, wherein the second protrusion is a chord edge or a bump of the second axial inlet.

12. A side-blown fan comprising:

a case having a side-outlet and a plurality of axial inlets; and

15 a blade member embedded inside the case, wherein a high air pressure region exists between the blade member and the case in a radial direction, and each axial inlet has a protrusion extending from an edge of the axial inlet close to the high air pressure region toward the center of the axial inlet.

13. The side-blown fan according to claim 12, wherein the protrusion covers the high air
20 pressure region and a part of the blade member.

14. The side-blown fan according to claim 12, further comprising a flow field region

between the case and the blade member.

15. The side-blown fan according to claim 14, wherein the high air pressure region is a region extending from the narrowest section of the flow field region to a section at a prescribed distance along the direction of the operational air stream inside the case.

5 16. The side-blown fan according to claim 12, wherein the high air pressure region is a narrow region existing between the blade member and the case in the radial direction.

17. The side-blown fan according to claim 12, wherein the case is constituted of a plurality of case elements.

10 18. The side-blown fan according to claim 17, wherein the plurality of case elements are jointed by a method selected from the group consisting of fixing, riveting, fastening and adhering.

19. The side-blown fan according to claim 17, wherein

the plurality of case elements are jointed by engaging hooking structures and corresponding eye structures formed on the case elements, respectively; or

15 the plurality of case elements are jointed by engaging U-shaped structures and corresponding bump structures formed on the case elements, respectively.

20. The side-blown fan according to claim 12, wherein each protrusion is a chord edge or a bump of each axital inlet.